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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/609,178	06/30/2000	Robert J. Deri	IL-10504	2665
7590 08/09/2005				
L E Carnahan Agent PO Box 808 L-703 Livermore, CA 94551			EXAMINER WOOD, KEVIN S	
			ART UNIT 2874	PAPER NUMBER

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/609,178

Applicant(s)

DERI ET AL.

Examiner

Kevin S. Wood

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-16 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**NON-FINAL REJECTION**

***Response to Amendment***

1. This action is responsive to the Amendment filed on 3 July 2002. Claims 1, 2, 4, 7, 11, 15, 16, and 20 have been amended. Claims 17 and 18 have been cancelled by the amendment, while claims 5 and 9 have been cancelled by a previous amendment. New claims 21-23 have been added. Claims 1-4, 6-16, and 20-23 are pending in the application.

***Drawings***

2. The drawings are objected to because they are informal (hand drawn). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the current drawings are informal (they appear to be drawn by hand and are not suitable for publication). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

#### ***Improper Claims***

4. Claim 2 is in improper form because of the following informalities: Claim 2 depends from claim 7. Claims may depend only from preceding claims. Appropriate correction is required.

5. Claim 3 in improper form because of the following informalities: Claim 3 depends from claim 2, which depends from claim 7. Claims may depend only from preceding claims. Appropriate correction is required.

6. Claim 20 in improper form because of the following informalities: Claim 20 depends from claim 23. Claims may depend only from preceding claims. Appropriate correction is required.

7. Claim 11 in improper form because of the following informalities: it is unclear which diffraction grating is being referred by "said diffraction grating" in the last line of the claim. Appropriate correction is required.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-4, 6-16, and 20-23 have been considered but are moot in view of the new ground(s) of rejection. The examiner no longer believes any subject matter within the claims to be allowable. The subject matter cited as allowable in previous actions has been withdrawn.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-3, 6-7, 9-13, 16, 20 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,805,759 to Fukushima.

Referring to claims 1 and 6, the Fukushima reference discloses all the limitations of the claimed invention. The Fukushima reference discloses a wavelength router, having: at least one diffraction grating (20) which utilizes only N wavelengths to

interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any number, a second diffraction grating (22) positioned to receive outputs from the first mentioned diffraction grating, a collection optic assembly (48) positioned to receive outputs from the second diffraction grating, and a plurality of filter modules (6) positioned to receive outputs from the collection optic assembly. See Fig. 12 of the reference along with its respective portion of the specification.

Referring to claim 7, the Fukushima reference discloses all the limitations of the claimed invention. The Fukushima reference discloses a wavelength router, having: at least one diffracting grating (20) which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any real number, a collection optic assembly (48) positioned to receive outputs from another diffraction grating (22), and a plurality of filter modules (6) positioned to receive outputs from the collection optic assembly. See Fig. 12 of the reference along with its respective portion of the specification.

Referring to claims 2 and 3, the Fukushima reference discloses all the limitations of the claimed invention. The Fukushima reference discloses the device is augmented by couplers and wavelength selective elements (24,26,30). The couplers are directional couplers and wavelength selective couplers (24,26). See Fig. 12 of the reference along with its respective portion of the specification.

Referring to claims 9 and 10, the Fukushima reference discloses all the limitations of the claimed invention. The Fukushima reference discloses that each of

the filter modules (6) includes different filters [(6(#1) (6(#2) (6(#3) (6(#4)]. See Fig. 12 of the reference along with its respective portion of the specification.

Referring to claims 11-13, the Fukushima reference discloses all the limitations of the claimed invention. The Fukushima reference discloses a wavelength router having: at least one diffraction grating (20) which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any number, a second diffraction (22) grating positioned to receive outputs from the first mentioned diffraction grating, at least one collection and re-direction optic assembly (28) positioned to direct inputs to the first mentioned diffraction grating, and a retro-reflector assembly (124) positioned to receive outputs from the second diffraction grating and reflect certain of the outputs back through the diffraction grating. See Fig. 22 and Fig. 23, along with their respective portions of the specification.

Referring to claims 16, 20 and 23, the Fukushima reference discloses all the limitations of the claimed invention. The Fukushima reference discloses a wavelength conserving grating router having: at least one diffraction grating (20) for receiving a number of inputs and for discharging a greater number of outputs, and means for combining at least a portion of the outputs, where the means is a directional coupler (26). See Fig. 12 of the reference.

11. Claims 4, 15, 8, 14, 21, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,226,428 to Saito et al.

Referring to claims 4 and 15, the Saito et al. reference discloses all the limitations of the claimed invention. The Saito et al. reference discloses a wavelength router, having: at least one diffraction grating (35) which utilizes only N wavelengths to interconnect N inputs to N outputs in a fully non-blocking manner, wherein N is any number, the at least one diffraction grating being augmented by a wavelength selective coupler which comprises an add-drop multiplexer (32,33,34). See Fig. 14 of the reference along with its respective portion of the specification.

Referring to claim 22, the Saito et al. reference discloses all the limitations of the claimed invention. The Saito et al. reference discloses a second diffraction grating (36) receiving the outputs from the first diffraction grating (35). See Fig. 14 of the reference.

Referring to claim 8, 14, and 21, the Saito et al. reference discloses all the limitations of the claimed invention. The Saito et al. reference discloses a wavelength router, having: at least one diffracting grating (35) which utilizes only 5 wavelengths to interconnect 5 inputs to 5 outputs in a fully non-blocking manner, a collection optic assembly (the waveguide between modules 32 and 33) positioned to receive outputs from another diffraction grating (36), and a plurality of filter modules (33,34) positioned to receive outputs from the collection optic assembly, where the filter modules are add/drop multiplexers. See Fig. 14 of the reference along with its respective portion of the specification.



**Conclusion**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S. Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin S. Wood

  
AKM ENAYET ULLAH  
PRIMARY EXAMINER